931 PNEUMOCYSTIS CARINII PNEUMONIA IN CHILDREN WITH HIV INFECTION.

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Thirteen HIV infected patients with pneumonitis (9/13, less than 1 year of age) underwent 16 invasive diagnostic procedures to determine the etiology of their pulmonary disease. Procedures were: Open lung biopsy (OLB) in 7 patients (one patient had 2 OLBs), bronchial lavage (BL) in 7 patients and bronchoscopy in 1 patient. OLB was diagnostic 8/8 times, (6 were PCP and 2 were lymphoid interstitial pneumonia). OLB was associated with chest tube placement, continued intubation and ventillation in all 8 patients and two patients had dramatic deterioration in respiratory status at the time of OLB. 2/8 patients died, one related to PCP. Bronchoscopy was non-diagnostic in the one patient. This patient who had bronchoscopy developed laryngospasm requiring intubation and ventilatory support. Because of the morbidity associated with these procedures, in November, 1985, we began performing BL through an endotracheal tube by instilling and suctioning 10-15 cc's of saline through a suction catheter wedged in a small bronchus. The lavage material was cytocentrifuged and stained with Grocott and Diff Quik staining methods. 5/7 specimens were positive for PCP. In the 2 which were negative, PCP was diagnosed by OLB within 24 hours in 1 patient and the second patient had no evidence of PCP at autopsy. 4/7 were intubated, 2 prior to lavage for worsening respiratory status and 3/7 subsequently died, 1 of these deaths was related to PCP. BL is a successful and less invasive alternative for the diagnosis of PCP. It's use as the initial diagnostic procedure for pneumonitis may obviate the need for OLB.

932 GRANULOMATOUS HEPATITIS IN CAT SCRATCH DISEASE (CSD): A NEW SYNDROME WITH DEMONSTRATION OF THE CAT SCRATCH BACILLUS IN THE LIVER.

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Three patients had an unusual presentation of CSD with visceral involvement. Two of the patients had no peripheral adenopathy. High fever (≥39°C) was present for more than 3 weeks in each case. Abdominal CT revealed focal hepatic defects in 2 patients and periportal and periaortic adenopathy in the third. At laparotomy, nodules were visible on the liver surfaces of all 3 patients and histologic examination revealed necrotizing granulomata. Using the Warthin-Starry silver stain, organisms consistent in appearance with the cat scratch bacillus were identified in the liver and a periaortic lymph node from one patient, in the liver from the second patient, and in the axillary lymph node of the third. This represents the first reported identification of the organism beyond the inoculation site-peripheral lymph node complex. In all 3 patients the clinical findings and abnormalities observed on imaging studies improved without specific therapy. A review of the surgical pathology files of Washington University revealed that these 3 patients were the only pediatric cases of granulomatous hepatitis diagnosed during the past 6 years. These findings indicate that CSD should now be included in the differential diagnosis of granulomatous hepatitis. The identification of CSD as a cause of granulomatous hepatitis in two of the patients in the absence of peripheral adenopathy suggests that the clinical spectrum of CSD may be broader than previously appreciated.

933 HISTOPATHOLOGY OF EXPERIMENTAL BACTERIAL MENINGITIS IN RABBITS.

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Despite extensive use of the rabbit to study the pathophysiology of bacterial meningitis (BM) and pharmacokinetics of new antimicrobials, the histopathology of the disease in this model has not been delineated. In order to define these abnormalities, 20 NZ wh rabbits were inoculated intracisternally by a percutaneous technique with normal saline (Controls, N=6), S. pneumoniae type III (Spn) (N=5 before {NV} and N=2 after {V} passage in mice) and H. inf. type b (HITB). Inocula were 3.8_{10} CFU, 4.3_{10} CFU and 8.4_{10} CFU, respectively. The brain was removed from the skull within 10 min after death, fixed immediately in 10% formalin for 2 wks and sectioned coronally at 10 uniform levels from the frontal lobes to the brain stem. Sections were stained by H&E and graded blindly for severity of leptomeningitis (0=nl → 5=severe) and the presence of parenchymal involvement (cerebritis, abscess formation, ventriculitis, vasculitis and choroid plexitis).

	Severity Score								CSF (48h)		
	Frontal	Parietal	Temporal	Occipital	Basal	Cerebellum	Brain Stem	MEAN SCORE (0→5)	Δ WBC (cu mm)	Δ Lac (mmol/L)	ΔCI (0→5)
Control	0	0	0	0	0	0	0	0	3	0	1.0
Spn(V)	1.5	1.0	1.0	2.0	2.0	1.0	1.5	1.2	11,368	5.4	3.5
Spn(NV)	1.7	0.8	0.8	2.0	2.1	1.6	1.2	1.4	350	-	1.8
HITB	0.9	0.8	0.7	1.4	1.1	1.0	0.8	0.9	490	3.7	1.4

3/5 rabbits with HITB and 5/7 with Spn demonstrated at least 1 parenchymal lesion. These were of mild degree with the exception of 1 rabbit (HITB) who died at 24h. There was no consistent relationship between the degree of CSF pleocytosis, ↑ lac or CI and the severity of histopathologic changes observed.

934 ^{31}P NMR SPECTROSCOPY IN EXPERIMENTAL BACTERIAL MENINGITIS IN RABBITS.

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Twenty-six NZ wh rabbits ($\bar{x}$wgt=2.73kg) were given normal saline (controls, N=11), H. influenza type b (HITB, N=10) or S. pneumoniae type III (S. pn, N=7) intracisternally by a percutaneous technique. The animals were observed for clinical illness (CI:1=unaffected→5=died) and a repeat cisternal tap performed at 24h and 48h. One-half were sacrificed at 48h for histopathologic and EM studies. The remainder were studied by NMR before and 48h after inoculation. The results were as follows:

				CSF (48h)					NMR Spectroscopy (0→48h)			
	N	Inoc (Log_{10} CFU)	CI Δ	Δ Temp (°C)	Δ WBC (cu mm)	Δ Gluc (mg/dL)	Δ Prot (mg/dL)	Δ Lac (mmol/L)	N	ΔPM	ΔPCr/Pi	ΔPCr/βATP
Control	11	0	1.0	0.1	3	15	(8)	0	5	(.04)	0.31	.03
HITB	10	8.41	1.4*	0.7	490x	12	109	3.7+	3	.01	0.55	.06
HITB(s)	1	-	-	-	-	-	-	-	1	.19	(1.35)	(.29)
Spn(NV)	3	3.97	1.8*	1.6	350x	-	-	-	-		-	
Spn(V)	4	4.29	3.5*	1.4	11,368x	116	119	5.4+	2	.11	0.60	(.4)

CI=clinical index HITB(s)=rabbit moribund at 24h

* =p<.05 expt'l vs control Spn(NV)=Spn w/o passage in mice

x =p<.03 expt'l vs control Spn(V)=Spn after passage in mice

\+ =p<.0002 expt'l vs control

^{31}P spectra obtained were technically satisfactory with good signal/noise ratios. Despite CSF and histopathologic evidence of mild meningitis, in these preliminary studies we did not demonstrate significant differences in intracellular pH or bioenergetics of brain tissue based upon PCr/Pi ratios.

†935 EFFECT OF PROPHYLACTIC ACETAMINOPHEN (AC) ON MODIFYING LOCAL AND SYSTEMIC REACTIONS TO DTP VACCINATION.

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To determine the effect of prophylactic AC on decreasing reactions after DTP vaccination, 261 children were assigned to receive premeasured doses of a study medicine containing either AC or placebo (PL), in a double-blind randomized protocol. AC or PL was given before (0-30 min.), and 3, 7, 12 and 18 hrs after vaccination. Fever, local and systemic reactions were monitored at 3, 7, 12 and 24 hrs. Switching to open AC (OP) was allowed if the child had a temperature above 38.9°C or was in moderate pain. Completeness of study medicine use was (AC/PL): all 5 doses=78%/61%; ≥4 doses 87%/75%; ≥3 doses=96%/83%. Significant differences ($p<0.05$) between AC/PL were: T ≥38°C at 3 hrs=2%/11%; T ≥38°C at 6 hrs=10%/32%; T ≥38°C at 12 hrs=19%/32%; fussiness 49%/71%, and severe pain at the vaccination site 6%/17%. Fewer parents in the AC group switched to OP due to fever or pain: 14%/25%. Switching to OP occurred earlier in the PL group (mean 8.5 hrs) than in the AC group (mean 14.8 hrs). There were no significant differences between the two groups for fever ≥38.5°C, redness, swelling, induration, overall pain, fever ≥38°C at 24 hrs, drowsiness, anorexia, emesis, or crying ≥½ hr. Prophylactic AC as given in this study reduces the occurrence of fever, severe pain, and fussiness, but does not appear to modify other local and systemic reactions following DTP immunization.

936 INFECTIOUS COMPLICATIONS IN PEDIATRIC TRAUMA PATIENTS.

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In adult patients with multiple trauma who survive > 5 days, infection is second only to head injury as a cause of mortality. No comparable data exist on the role infection plays in traumatized pediatric patients. CHLA is a designated trauma center for pediatric patients in Los Angeles. We reviewed the infectious complications occurring in 242 children with severe trauma admitted to the intensive care unit over an 18 month period. Forty-nine infections occurred in 28 patients. The most frequent traumatic events leading to hospitalization of these 28 patients were vehicular accidents (36%), head trauma (29%) and drowning (21%). The most common sites of infection were the respiratory tract (43%), blood (24%), skin and soft tissues (14%) and urinary tract (10%). Pneumonia was the single most common infection occurring in 29% of the 49 episodes. Pathogens isolated from patients with pneumonia included haemophilus species (7), Staphylococcus aureus (5), streptococci (4), gram negative bacilli (4), candida species (2) and Bramhamella catarrhalis (1). Organisms isolated from septic patients included staphylococci (5), candida species (4), gram negative bacilli (2) and streptococci (2). There were 3 deaths attributable to infection. All 3 patients had sepsis and 2 had fungemia. Infections are an important complication in hospitalized pediatric trauma patients. In the present study pneumonia was the most common infection, but sepsis was the most lethal infection seen.